

Serial No. 09/817,629  
CRNG.010  
In response the Office Action  
dated February 7, 2004

### Remarks/Arguments

#### Rejections Under 35 U.S.C. § 103(a)

1. Claims 1-3, 5,6,10-13, 20-23, 24-26, 28 and 34 were rejected under 35 U.S.C. § 102(b) as being unpatentable by *Khalegi, et al.* (U.S. Patent 6,040,933) in view of *Chraplyvy, et al.* (U.S. Patent 5,225,922). For at least the reasons set forth below, Applicants respectfully submit that the present rejection is improper and should be withdrawn.

Claim 1 is drawn to an optimizer for a transmission system between a transmission terminal and a reception terminal having at least two channels. Claim 1 features: a processor which determines an adjustment for equalizing an optical signal to noise ratio (OSNR) for each channel and reduces the adjustment by one half of the OSNR equalization..."

For example, in keeping with an embodiment described in the filed application, the performance of the system is optimized by the use of one-half of the OSNR equalization.

It is respectfully submitted that the reference to *Khalegi, et al.* lacks the disclosure of at least the noted features of claim 1. To this end, the reference to *Khalegi, et al.* to channel performance equalization in a wavelength division multiplexed system. The reference discloses that the network monitor has a calculating means for calculating OSNRs of the channel at the WDM 64 and the stored optical power measurements. The reference also discloses selection means for selecting a reference channel for the purpose of calculating the optical power adjustments of the transmitters. Moreover, the reference discloses communicating adjustments to the transmitters until the calculated optical power adjustment

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amount is less than a minimum optical power adjustment of the transmitters 20, or some other predetermined amount. (Kindly refer to column 8, lines 7-30 of the reference to *Khalegi, et al.* for support for the above assertions.)

Accordingly, it is respectfully submitted that the reference to *Khalegi, et al.* specifically lacks the disclosure of a processor which determines an adjustment for equalizing an optical signal to noise ratio (OSNR) for each channel and reduces the adjustment by one half of the OSNR equalization. Therefore, because the reference to *Khalegi, et al.* lacks at least the disclosure of at least one feature of each of independent claim 1, a *prima facie* case of obviousness has not been established. As such, and for at least the reasons set forth above, it is respectfully submitted that independent claim 1 is patentable over the applied art. Furthermore, at least because these independent claims are patentable, those claims that depend directly or indirectly from claim 1 are patentable.

Claim 20 is drawn to a method of optimizing performance of a transmission system between a transmission terminal and a reception terminal having at least two channels. Claim 20 includes features similar to those discussed above relative to claim 1. As such, for at least the reasons set forth above, it is respectfully submitted that independent claim 20 is patentable over the applied art. Furthermore, at least because these independent claims are patentable, those claims that depend directly or indirectly from claim 20 are patentable.

2. Claims 4, 14-19, 23, 29 and 30-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Khalegi, et al.* in view of *Chraplyvy, et al.* and further in view of *Swanson, et*

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al. (U.S. Patent 6, 433,904) For at least the reasons set forth below, it is respectfully submitted that this rejection is improper and should be withdrawn.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is a teaching, suggestion or motivation to do so found in the references themselves or in the knowledge generally available to one of ordinary skill in the art. However, hindsight is never an appropriate motivation for combining references and/or the requisite knowledge available to one having ordinary skill in the art. To this end, relying upon hindsight knowledge of applicants' disclosure when the prior art does not teach nor suggest such knowledge results in the use of the invention as a template for its own reconstruction. This is wholly improper in the determination of patentability.

Claim 14 features "...a processor determining an adjustment in accordance with **fiber non-linearities** of the system..."

The filed application discloses that due to fiber non-linearities, merely equalizing the power or OSNR will not necessarily optimize performance. The feature of claim 14 noted above addresses the deleterious aspects of fiber non-linearities.

The Office Action notes the deficiency of this feature and then attempts to fashion a patchwork mosaic of elements garnered from individual references. While not conceding that the references discloses the features of claim 14, it is respectfully submitted that the present rejection is improper because the Office Action fails to provide the requisite motivation for combination **from the references themselves or**

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from knowledge generally available to one of ordinary skilled in the art.

In addition, the Office Action asserts that reference to Swanson, et al. shows a well-known concept that the non-linearities of the system increase with increasing power. While this may be true, the noted feature of claim 14 relates to determining adjustments in accordance with fiber non-linearities. Thus, the referenced disclosure of Swanson, et al. is not that which is featured in claim 14. Accordingly, it is respectfully submitted that the Office Action that the rejection is improper for at least the lacking motivation for the combination of references. For at least the reasons set forth, it is respectfully submitted that claim 14 and the claims that depend therefrom are allowable over the applied art

Claim 29 is drawn to a method and includes features similar to those set forth in claim 14. For at least the reasons discussed above with regard to claim 14, it is respectfully submitted that claim 29 and the claims that depend therefrom are allowable over the applied art.

3. Claims 7-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Khalegi, et al. in view of Khoe, et al. (U.S. Patent Number 4,942,568). For at least the reasons set forth below, it is respectfully submitted that this rejection is improper and should be withdrawn.

Claims 7-9 depend from independent claim 1. This independent claim, for reasons set forth above, is patentable over the applied art. Accordingly, and while in no way conceding to the propriety or reasoning of the present rejection, it is respectfully submitted that claims 7-9 are patentable over the applied art.

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CONCLUSION

In view of the foregoing, reconsideration and withdrawal of all objections and rejections are respectfully requested. Allowance of all pending claims is earnestly solicited.

In the event that there are any outstanding matters remaining in the present application, please contact William S. Francos (Reg. No. 38,456) at (610) 375-3513 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

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